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Asymptomatic urethral gonorrhoea in men*

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SUMMARY Over a period of nine months 203 cases of urethral gonorrhoea were seen in 188 men. In 36 (17%) of the cases there were no symptoms, and in 14 (7%) the symptoms were considered so mild that the patients thought medical care was unnecessary. The symptomless patients and those with mild symptoms were found only as a result of efficient contact tracing. This high incidence illustrates the importance of good contact tracing and careful investigation.

Introduction

Heterosexual men who have been in contact with gonococcal infection usually develop symptoms of urethritis with a purulent urethral discharge and dysuria. However, asymptomatic urethral infection can also occur in men. One of the earliest references to this condition was by Bittiner and Horne (1955), who reported the existence of the male gonorrhoea 'carrier' (a man with the disease and capable of transmitting it but with no symptoms or with symptoms so slight as to be ignored). In the present report of asymptomatic urethral gonorrhoea in men we have followed this definition. This varies from that of Pariser (1972) and Wallin (1974), who defined asymptomatic infection as the condition in which there are no clinical signs or symptoms of the disease detected by either the patient or the examining physician.

After we had noticed *Neisseria gonorrhoeae* infection of the urethra in symptomless men, we decided to undertake a detailed survey of urethral gonorrhoea in men; this survey showed that in 36 out of 203 consecutive cases of urethral gonorrhoea there were no symptoms.

Materials and methods

The survey was carried out on male patients who attended the clinic between January and September 1977. They were either patients attending with symptoms or those attending the clinic as contacts of gonococcal infection. The total studied was 203 cases in 188 patients. In this group of 203, 153 cases in 143 patients presented with symptoms and signs. The remaining 50 cases were in patients who attended the clinic as named contacts of *N. gonorrhoeae* infection on the advice of their sexual partner or contact tracer (Table). Thirty-six out of the 50 were totally symptomless, and of the remaining group of 14 cases in 14 patients 10 had slight discomfort in the urethra and four had slight urethral discharge. This group of 14 thought these symptoms were not serious enough to seek medical advice. When studied in detail 17 out of the group of 36 showed signs of a scanty urethral discharge on squeezing the urethra, which had not been previously noted by the patient. These 36 cases occurred in 31 patients; of these 61% were white (British), 33% coloured (West Indians), and 6% were other nationalities; seven had had previous attacks of gonorrhoea; but none of the 36 had taken antibiotics in the preceding two months. In the group of 14, 79% were white (British) and 21% were coloured (West Indians); six had had previous attacks of gonorrhoea; but none had had antibiotics in the preceding two months. In the group of 143 patients with 153 cases of gonorrhoea, 51% were white (British), 39% coloured (West Indians), 3% Asians, and 7% other nationalities; 41 of them had had previous attacks of gonorrhoea.

Table *Fifty male patients attending as contacts of gonococcal infection*

Clinical data	*No. of patients*	% (*n*=203)
No symptoms or signs*	19	17
No symptoms† but slight discharge on examination	17	
Slight discomfort only but no discharge	10	7
Slight discharge which had been ignored	4	

*As defined by Pariser (1972) and Wallin (1974)
†Included using definition of Bittiner and Horne (1955)

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The diagnosis of gonorrhoea was established by Gram-stained smear and culture from the urethral discharge where present and by a scrape of material from the anterior urethra for smear and cultural studies in those patients with no obvious discharge. The scrape was done with a sterilised platinum loop introduced 2 cm into the urethra and gently scraped and smeared on a glass slide for Gram-staining. A thin, plain, sterile swab was introduced into the urethra about 2 cm and was sent to the local public health laboratory in Amies transport medium, where it was inoculated on to a non-selective medium (ordinary blood agar plate) and on to a selective medium (modified Thayer-Martin medium*). It was then incubated at 37°C for 48 hours in a humidified atmosphere containing 5–10% CO_2. Colonies of *N. gonorrhoeae* were subjected to the oxidase test and sugar fermentation studies.

Patients under study had held their urine for a minimum of two hours before the investigation. A two-glass urine test was carried out after the above tests. The reason for attending the clinic and the diagnosis of the contacts were also recorded.

Results

All the 36 asymptomatic cases and 12 of the 14 with slight symptoms attended the clinic following contact tracing. In the asymptomatic group of 36 both smears and cultures were positive in 23, smears alone were positive in nine, and cultures alone were positive in four. The two-glass urine test was clear in 25 out of the 36 symptomless cases. In the group of 14 with symptoms ignored by the patients smears and cultures were positive in 11, and smears alone were positive in three. The two-glass urine test showed small threads in eight and was clear in six.

The 36 entirely symptomless cases formed 17% of the whole group with urethral gonorrhoea. The additional group of 14 with mild symptoms constituted 7% of the total.

Discussion

A high incidence of asymptomatic gonorrhoea has been reported in women on many occasions. Chapel and Smeltzer (1975) reported an incidence of 35·4%, Wallin (1975) 50%, Nielsen *et al.* (1975) 57%, and Pariser (1976) 70%. This asymptomatic state in women is important in the spread of gonorrhoea. The same applies to asymptomatic gonorrhoea in men. The results of this study show an incidence of asymptomatic gonorrhoea of 17%. One of the earliest reports of asymptomatic gonorrhoea in men came from Bittiner and Horne (1955), who described the existence of a male gonorrhoea 'carrier' and reported seven cases in four years. Other studies included that of Handsfield *et al.* (1974) with an incidence of 43%, Portnoy *et al.* (1974) 43%, Wallin (1975) 23%, Nielsen *et al.* (1975) 15%, Perera and Lim (1975) 24 cases in seven months, and Pariser (1976) 10–15%.

The urethra may not be the only genitourinary site in men in which gonococcal infection may be latent. Molin and Danielsson (1970) reported that gonococcal-like organisms may be found by direct microscopical examination or by immunofluorescent staining in the prostatic secretions of patients with negative urethral smears and cultures, although these could not be confirmed by culture.

It is difficult to provide a satisfactory explanation for this high incidence of asymptomatic urethral gonorrhoea in men. One possibility is that *N. gonorrhoeae* may be becoming less virulent under certain conditions. We do not know if this high incidence existed in the past. It may only be recognised as a result of efficient contact tracing and improved diagnostic techniques. However, from a public health point of view, it is vital to trace all men who may have been in contact with gonorrhoea. All patients should be investigated thoroughly. When there is no clinical evidence of urethral involvement the urethra should be gently scraped and the material examined by Gram-stain and culture for *N. gonorrhoeae* after the urine has been held for at least two hours.

*Derby modification of Thayer-Martin medium consists of Columbia agar base, defibrinated horseblood, and antibiotic solution (vancomycin 1·5 μg/ml, nystatin 6·2 units, polymixin B 20 units and trimethoprim 2 μg/ml). This modification is based on the susceptibility of locally isolated strains to the antibiotics, especially to trimethoprim.

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